

CLAIMS

1. A computer program product, tangibly embodied in an information carrier, the computer program product comprising instructions operable to cause data processing apparatus to:
receive user input specifying a view composition, the view composition comprising a set of views, each view in the set of views comprising a layout of one or more user interface elements selected from a set of user interface elements, the view composition further comprising a layout of the views and at least one navigation link, each navigation link specifying a potential transition from a first view in the set of views to a second view in the set of views; and
store the view composition in a repository.
2. The computer program product of claim 1, wherein the set of user interface elements comprises one or more of input user interface elements, view user interface elements, and container user interface elements.
3. The computer program product of claim 1, wherein the instructions are further operable to cause the data processing apparatus to receive further user input, the further user input specifying one or more property settings for at least one of the one or more user interface elements.
4. The computer program product of claim 1, wherein each navigation link comprises an association between an exit point in the first view and an entry point in the second view.
5. The computer program product of claim 4, wherein the exit point comprises a definition of an event that can be raised in order to trigger the navigation link, and the entry point comprises an event handler corresponding to the event.
6. The computer program product of claim 1, wherein the layout of the views comprises a pre-defined layout.
7. The computer program product of claim 1, wherein the layout of the views comprises a nesting of one or more views from the set of views inside an enclosing view from the set of views.

8. The computer program product of claim 7, wherein the nesting comprises an association between the one or more views and a view container user interface element in the enclosing view.
9. The computer program product of claim 7, wherein the nesting comprises an association between the one or more views and a pre-defined set of view areas in the enclosing view.
10. The computer program product of claim 1, wherein the layout of the views comprises a specification of a view area for displaying at most one view at a time, and an association between the view area and two or more views from the set of views.
11. The computer program product of claim 10, wherein one of the two or more views is designated as a default view to display in the view area.
12. The computer program product of claim 1, wherein the instructions are further operable to cause the data processing apparatus to associate the view composition with a reusable component.
13. The computer program product of claim 12, wherein at least one of the views in the set of views is defined in a second, distinct view composition associated with a second, distinct reusable component.
14. The computer program product of claim 1, wherein the user input is provided by a user through interface controls provided in at least one graphical user interface.
15. The computer program product of claim 1, wherein the instructions are further operable to cause the data processing apparatus to generate an XML representation of the view composition, and wherein storing the view composition in the repository comprises storing the XML representation of the view composition in the repository.

16. A computer program product, tangibly embodied in an information carrier, the computer program product comprising instructions operable to cause data processing apparatus to:

generate a user interface comprising a layout of one or more views from a set a views, the layout and the set of views being specified in a view composition, each view in the set of views comprising a layout of one or more user interface elements selected from a set of user interface elements; and

modify the user interface based on at least one navigation link specified in the view composition, wherein each navigation link associates a first view in the set of views with a second view in the set of views.

17. The computer program product of claim 16, wherein modifying the user interface comprises invoking an event handler implemented in an entry point associated with the second view.

18. The computer program product of claim 16, wherein modifying the user interface comprises displaying the second view in the user interface.

19. The computer program product of claim 16, wherein:

the layout of the one or more views comprises a specification of a view area for displaying at most one view at a time, and an association between the view area and the first and second views; and

modifying the user interface comprises displaying the second view in the view area and hiding the first view.

20. The computer program product of claim 18, wherein:

the layout of the one or more views comprises a nesting of the second view inside an enclosing view in the set of views; and

modifying the user interface further comprises displaying the enclosing view in the user interface.

21. The computer program product of claim 20, wherein displaying the enclosing view comprises displaying a third view contained in the enclosing view.

22. The computer program product of claim 16, wherein the instructions are further operable to cause the data processing apparatus to modify the view composition.

23. The computer program product of claim 22, wherein modifying the view composition comprises:

- specifying a new view; and

- specifying a new navigation link between the new view and one of the views in the set of views.

24. The computer program product of claim 23, wherein the view composition is associated with a reusable component, and wherein the new view is defined in a second, distinct view composition associated with a second, distinct reusable component.

25. A computer readable medium having stored thereon a design time representation of a visual interface for a computer program, the design time representation of the visual interface comprising:

- a set of views, each view in the set of views comprising a layout of one or more user interface elements selected from a set of user interface elements;

- a layout of the views; and

- at least one navigation link, each navigation link specifying a potential transition from a first view in the set of views to a second view in the set of views.

26. The computer readable medium of claim 25, wherein the layout of the views comprises:

- a specification of a view area for displaying at most one view at a time;

- an association between the view area and two or more views from the set of views; and

- a designation of one of the two or more views as a default view to display in the view area.

27. The computer readable medium of claim 25, wherein the layout of the views comprises a nesting of one or more views from the set of views inside an enclosing view from the set of views.

28. A computer-implemented method for developing user interfaces, the method comprising:
- receiving user input specifying a view composition, the view composition comprising a set of views, each view in the set of views comprising a layout of one or more user interface elements selected from a set of user interface elements, the view composition further comprising a layout of the views and at least one navigation link, each navigation link specifying a potential transition from a first view in the set of views to a second view in the set of views; and
 - storing the view composition in a repository.
29. An apparatus comprising:
- means for receiving user input specifying a view composition, the view composition comprising a set of views, each view in the set of views comprising a layout of one or more user interface elements selected from a set of user interface elements, the view composition further comprising a layout of the views and at least one navigation link, each navigation link specifying a potential transition from a first view in the set of views to a second view in the set of views; and
 - means for storing the view composition in a repository.
30. A computer-implemented method for executing an application, the method comprising:
- generating a user interface comprising a layout of one or more views from a set a views, the layout and the set of views being specified in a view composition, each view in the set of views comprising a layout of one or more user interface elements selected from a set of user interface elements; and
 - modifying the user interface based on at least one navigation link specified in the view composition, wherein each navigation link associates a first view in the set of views with a second view in the set of views.

31. An apparatus comprising:

means for generating a user interface comprising a layout of one or more views from a set of views, the layout and the set of views being specified in a view composition, each view in the set of views comprising a layout of one or more user interface elements selected from a set of user interface elements; and

means for modifying the user interface based on at least one navigation link specified in the view composition, wherein each navigation link associates a first view in the set of views with a second view in the set of views.